UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,634	07/08/2003	Barry L. Berson	SAI.P001 US	1446

32794 7590 04/19/2006

KOESTNER BERTANI LLP
18662 MACARTHUR BLVD
SUITE 400
IRVINE, CA 92612

EXAMINER	
HAJNIK, DANIEL F	

ART UNIT	PAPER NUMBER
2628	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/615,634	BERSON ET AL.	
	Examiner	Art Unit	
	Daniel F. Hajnik	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,16-39 and 41-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to an amendment filed 11/10/2005.

2. Claims 1 and 37 have been amended.

3. Claims 15 and 40 have been cancelled.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-14, 16-39, and 41-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guell et al. (NPL Document "FLILO - an Enhanced Vision System", herein referred to as "Guell") in view of NASA et al. (NPL Document "NASA's High-Speed Research Program", herein referred to as "NASA") in further view of Bernier et al. (US Pub 2004/0169663, herein referred to as "Bernier").

As per claim 1, Guell teaches the claimed "first sensor" and teaches the claimed "second sensor" by teaching of a plurality of imaging sensors shown on pg. 34, figure 4.

Guell teaches the claimed "fuse the images to a single viewpoint" by teaching of "The video images from the cameras are digitized, and electronically combined in the Electronic Imaging System (EIS) Processor to form an external view to the pilot" (pg. 33, 1st full paragraph in 1st col).

Guell teaches the claimed "transform the fused image to a first viewpoint image ... and a second viewpoint" by teaching of in figure 6 where a cockpit is shown with displayed titled images. If a pilot and co-pilot were both sitting in the cockpit, each pilot (operator) would have a different viewpoint image from their respective positions within the cockpit where the set of tiled images in constructed from fused images from multiple sensors. Further, Guell teaches the use of having multiple pilots in the cockpit by teaching of "FLILO would help retain the two-man cockpit crew" (pg. 34, last of line of 1st col and first line of 2nd col). Further, Guell teaches the claimed limitation by teaching of "Each pilot has an independent view, which is controlled by their head position, while utilizing the same sensors that are static and fixed to the aircraft" (pg. 32, middle of 1st col).

Guell does not explicitly teach the claimed "detect moving objects in the images". NASA teaches the claimed limitation by teaching of a feature described as "Object Detection: Data was gathered to help develop methods for detecting other aircraft" (third item in bulleted list under section "XVS Flight Test Series II").

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Guell and NASA. One advantage of the combination is provided by NASA, which teaches of "In addition to providing valuable real-time sensor data for subsequent analyses, the first XVS flight test series gave researches confidence that a future supersonic passenger jet could indeed be flown without forward facing windows in the cockpit" (3rd paragraph under the section "XVS Flight Test Series I") where the functionality of moving object detection would aid in achieving a windowless cockpit.

Guell does not explicitly teach the claimed "to generate a common display area associated with at least two mutually exclusive windows of information on the display device, wherein the common display area can be customized by the operator to display detailed information related to the information displayed in the associated windows". Bernier teaches the claimed limitation by teaching of in figure 16 a common window, 124 is generate from two separate image sources 122a and 122b (windows of information). Bernier in figure 18 shows that the common window can have mutually exclusive (not overlapping) windows of information, 134 and 136 and that the common window is customizable where the added windows of information 134 and 136 are customized added features.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Bernier with the combinable system of Guell and NASA. One advantage of the combination is provided by Bernier, which teaches of "the image tiling capability also provides the ability to present picture-in-picture virtual displays distributed throughout the viewable space. For instance, it may be desirable to have a moving map presented in the lower display areas ... Another desire may be to have a rear-facing camera mapped to a tile in the upper display area, similar to a rear-view mirror ... This imagery can be further augmented with a synthetic image source, such as a head-tracked 30 terrain rendering correlated with vehicle position" (paragraph [0100]). These common display area features and the option to pick and choose one or more of these picture-in-picture displays helps the pilot of the system of Guell and NASA get a

stronger idea and understanding of the overall surroundings of the aircraft while its in flight.

As per claim 2, Guell does not explicitly teach the claimed "combine the first and second viewpoint images with symbols". NASA teaches the claimed limitation by teaching of "pilot's ability to control and land the aircraft relying only on sensors and computer-generated images (including various symbols) on the XVS display" (3rd paragraph under the section titled "XVS Flight Test Series I").

As per claim 3, Guell does not explicitly teach the claimed "detecting moving objects ... are to configured to execute simultaneously". NASA teaches the claimed limitation by teaching of multiple sensors (third paragraph under section "XVS Flight Test Series II") where these sensors would both be utilized to detect moving objects.

As per claim 4, Guell teaches the claimed "transforming the fused image to the first viewpoint image" and teaches the claimed "transforming the fused image to the second viewpoint image" by teaching of on pg. 32, figure 1, where the plurality of imaging sensors data is inputted into an "Electronic Imaging System (EIS) processor" and the resulting image data is then sent to a pilot for display. While Guell does not explicitly teach the claimed use of a plurality of processors, it would have been obvious to use a plurality of processors for real-time data processing in order to send the image

data to more than one operator (different viewpoints) because it is well known in the art that multi-processor use can be much faster.

As per claim 5, Guell does not explicitly teach the claimed "symbols represent the moving objects in the vicinity of the device". However, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Guell and NASA to perform the claimed limitation because Guell teaches of symbols in figure 6A and NASA teaches of detecting moving objects (third item in bulleted list under section "XVS Flight Test Series II"). The modification can be achieved by extending the moving objects detection capabilities of NASA to be represented as symbols such as the symbols mentioned by NASA where NASA specifically teaches of "computer-generated images (including various symbols) on the XVS display" (3rd paragraph under the section titled "XVS Flight Test Series I"). One advantage to the modification is that displaying symbols to represent moving objects around the aircraft (i.e. other aircraft) is one of the most convenient and useful data objects to display when navigating an aircraft.

As per claim 6, Guell does not explicitly teach the claimed "wherein at least one of the first and second viewpoint images include environmental information for the area where the device is operating". Bernier teaches the claimed limitation by teaching of "For example, the aircrafts HSI and ADI displays, altimeters, airspeed, etc. could be displayed" (paragraph [0102]). Further, Bernier teaches of a moving map tile (environment information) in figure 18, piece 136.

One advantage of using the moving map of Bernier with the system of Guell and NASA is that Bernier teaches of "For instance, it may be desirable to have a moving map presented in the lower display areas, similar to having a paper map in your lap" (paragraph [0098]). Thus, this map feature makes it easy on the pilot to view the map information and prevents the pilot from having to look at a separate physical map on the pilot's lap while using the aircraft display system.

As per claim 7, the reasons and rationale for the rejection of claim 5 are incorporated herein. Guell does not explicitly teach the claimed "wherein the symbols represent weather hazards in the vicinity of the device". However, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Guell, NASA, and Bernier to perform the claimed limitation because Bernier teaches of "Visual hindrances may be due to bad weather, such as fog, snow, or rain, or they may be due to the time of day, such as night, dawn, or dusk. Further, some visual hindrances are due to the field of view limitations of the aircraft itself. Many aircraft cockpits have a field of view that is typically limited to a forward facing area that does not provide the pilot with adequate visualization to the sides and rear of the aircraft" (paragraph [0005]). The modification can be achieved by taking symbols such as those taught by NASA and using them to represent the weather data of Bernier. One advantage to the modification is that weather hazards may be difficult to see exactly at night and such symbols would help the pilot understand the aircraft's surroundings better.

As per claim 8, Guell teaches the claimed "to receive an enhanced image from a third sensor configured to provide an image of the out-the-window scenery in low-visibility conditions" by teaching of "Typical sensors used with the system are low-light video cameras, long-wave 'infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]).

As per claims 9 and 10, Guell does not explicitly teach the claimed "fuse the single viewpoint image with the enhanced image" and does not explicitly teach the claimed "utilize data from at least one position sensor to determine the location of the objects with respect to the device". Bernier teaches the claimed limitations by teaching of "For example, given a visible and an infrared image covering similar fields of view, the images can be combined at the pixel level, where priority can be given to the infrared image based upon its pixel intensity" (paragraph [0017]).

Bernier teaches one advantage to combining the visible and infrared image features of Bernier with the system of Guell and NASA by teaching of "For example, one tile image may be defined with a 30% intensity and the other a 70% intensity. The images are then summed together in this intensity percentage ratio, thereby providing the user with the benefit of both images" (paragraph [0017]). Thus, the pilot using the imaging system of Guell and NASA would benefit from receiving a blended and effectively combined image display, because a blended image provides information of two sources simultaneously to aid with accurate imaging (i.e. visible and infrared image data coming from external sensors located on the outside of the airplane).

As per claim 11, Guell does not explicitly teach the claimed "utilize data from off-board data sources regarding the objects" Bernier teaches the claimed limitation by teaching of "the central processor receives the output of a synthetic vision system that generates 3D terrain and graphics from a navigation database" (paragraph [0101]) where this database would contain off-broad 3D terrain data and off-broad navigation data since the aircraft would have limited capabilities of obtaining ground data through on-board ground sensors if at high altitudes.

As per claim 12, Guell teaches the claimed "wherein the first sensor and the second sensor are video cameras" by teaching of "video images from the cameras are digitized, and electronically combined in the Electronic Imaging System (EIS)" (pg. 33, first full paragraph in first column).

As per claim 13, Guell teaches the claimed "wherein the third sensor is a RADAR" by teaching of "Typical sensors used with the system are low-light video cameras, long-wave 'infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]).

As per claim 14, Guell teaches the claimed "wherein the third sensor is a FLIR sensor" by teaching of "Typical sensors used with the system are low-light video cameras, long-wave 'infrared sensors, and millimeter wave radar, to name a few"

(paragraph [0050]), where the long-wave infrared sensors perform a similar function to the FLIR.

As per claims 16, 24, and 37, the reasons and rationale for the rejection of claim 1 are incorporated herein. Guell does not explicitly teach the claimed "output the first operator viewpoint image ... wherein the display device are positioned to provide to provide the portion of a desired out-the-window visual scene in combination with a cockpit window that provides another portion of the desired out-the-window visual scene". Bernier teaches the claimed limitation by teaching of "Importantly, also connected to the image processor is a display 28. In this particular embodiment, the display is a helmet-mounted display located in the helmet of the pilot or other viewer" (paragraph [0052]) and by teaching of "It is understood here that a helmet-tracking device is not required for the invention" (paragraph [0052]) where the reference would achieve the claimed limitations by using a monitor instead of a head mounted display (a different embodiment) where the monitor is placed in the cockpit (the cockpit with windows is shown in figures 1a and 1b).

As per claims 17 and 18, the reasons and rationale for the rejection of claim 2 are incorporated herein. Guell does not explicitly teach the claimed "detecting objects in the first fused image from the first type of sensor" and does not explicitly teach the claimed "combining the first fused image with symbols representing the objects". NASA teaches the claimed limitations by teaching of "Object Detection: Data was gathered to

help develop methods for detecting other aircraft" (third item in bulleted list under section "XVS Flight Test Series 11"). NASA teaches of this object detection being used with the first fused image from the first type of sensor because it differentiates "Object Detection" from "Object Detection via Radar" (object detection through the second fused image) in describing data collection methods in the bulleted list under section "XVS Flight Test Series II".

As per claim 19, Guell teaches the claimed "transforming the first operator viewpoint image and the second operator viewpoint image to conform to the out-the-window visual scene" by teaching of "In essence, the actual outside world view can encompass a very large area that can go beyond what is visually allowed by the cockpit windows, providing unobstructed views in any desired direction (see figure 3)" (pg. 33, last sentence of 1st column, and top of second column).

As per claims 20-23 and 41-45, Guell teaches the claimed "transforming the second fused image to the first operator viewpoint and to the second operator viewpoint" by teaching of "Each pilot has an independent view, which is controlled by their head position, while utilizing the same sensors that are static and fixed to the aircraft structure" (pg. 32, middle of first paragraph in first column) where the each pilot's independent view is an operator viewpoint.

Guell teaches the claimed "providing portions of the transformed image with data from a terrain map database" by teaching of a "Moving Map / RTIC" displayed as a portion of the transformed image in pg. 34 figure 6.

Guell does not explicitly teach the claimed fusing the first and second images "with an enhanced image of a portion of the out-the-window scenery from at least one of the group of a RADAR sensor and a FLIR sensor, to generate a second fused image". Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video cameras, longwave infrared sensors, and millimeter wave radar, to name a few" (paragraph [0050]) where the long-wave infrared sensors perform a similar to function to the FLIR.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Bernier with the combinable system of Guell and NASA. One advantage of the combination is provided by Bernier, which teaches of "the system of the present invention may include two different types of sources ... the sources provide different images of the same field of view; each source having associated advantages and disadvantages. For example, one source could be a video camera . . . and the other source may be an infrared sensor that provides images based on heat sensing" (paragraph [0016]). The pilot of the system of Guell and NASA would benefit from image sources which provide image data in a variety of environmental conditions (i.e. low-visibility conditions) such as the infrared sources because it would help the pilot see more information as to the surroundings of the aircraft.

As per claims 25, 26, and 27, Guell does not explicitly teach the claimed "display processor is further operable to combine the viewpoint image with symbols, wherein the symbols represent information regarding the operational state of the device and the moving objects detected in the images", does not explicitly teach the claimed "display processor is further operable to detect moving objects in the first sensor image", and does not explicitly teach the claimed "display processor is further operable to generate symbols representing moving objects in the sensor image and the operational state of the device". NASA teaches the claimed limitations by teaching of tracking objects in the section titled "XVS Flight Test Series III" and by teaching of "pilot's ability to control and land the aircraft relying only on sensors and computer-generated images (including various symbols) on the XVS display" (3rd paragraph under the section titled "XVS Flight Test Series I"). NASA teaches of an advantage of displaying symbols of moving objects used in the XVS system by teaching of "The envisioned external Vision System (XVS) would guide pilots to an airport, warn them of other aircraft near their flight path, and provide additional visual aides for airport approaches, landings and takeoffs1" (2nd paragraph in article). NASA teaches of displaying symbols (a feature of the XVS system) that would warn pilots of other aircraft near their flight path.

As per claim 28, this claim has limitations that follow those within claim 7 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 29, this claim has limitations that follow those within claim 8 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 30, this claim has limitations that follow those within claim 9 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 31, this claim has limitations that follow those within claim 10 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 32, this claim has limitations that follow those within claim 11 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claims 33, 34, and 35, the reasons and rationale for the rejection of claims 13, 14, and 20-23 are incorporated herein. Guell teaches the claimed "sensor is a video camera" by teaching of "video images from the cameras are digitized, and electronically combined in the Electronic Imaging System (EIS)" (pg. 33, first full paragraph in first column).

Guell does not explicitly teach the claimed "second sensor is a RADAR sensor" and does not explicitly teach the claimed "second sensor is a FLIR sensor". Bernier teaches the claimed limitation by teaching of "Typical sensors used with the system are low-light video cameras, long-wave infrared sensors, and millimeter wave radar, to

name a few" (paragraph [0050]) where the longwave infrared sensors perform a similar to function to the FLIR.

As per claim 36, this claim has limitations that follow those within claim 1 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 38, this claim has limitations that follow those within claim 17 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 39, the reasons and rationale for the rejection of claims 2 and 18 are incorporated herein. Guell does not explicitly teach the claimed limitation. Bernier teaches the claimed "primary flight information" by teaching of "For example, the aircrafts HSI and AD1 displays, altimeters, airspeed, etc, could be displayed on the display as a tile or fused with an image to provide an integrated view ... while also viewing the environment surrounding the aircraft" (paragraph [0102]).

As per claims 46 and 47, the reasons and rationale for the rejection of claim 1 are incorporated herein. Guell teaches the claimed limitations by teaching of "specific mission/operational needs" (pg. 33, top of 1st col) and by teaching of a "Control Panel" (figure 1).

Response to Arguments

The objection to the title of the invention has been withdrawn in response to the new title proposed in this amendment.

The provisional double patenting rejection raised in the previous office action has been withdrawn in response to a terminal disclaimer filed on 11/10/2005 with copending application 10/616145.

Applicant's arguments filed 11/10/2005 have been fully considered but they are not persuasive.

Applicant argues:

In rejecting claim 15, the examiner states that Bernier U.S. Patent Application Publication No' 2004/0169663 (hereafter "Bernier") shows multiple windows with a common display area that is customizable from alternative common display area views. (Office Action, page 15). With respect, Applicant disagrees. The cited portion of Bernier pertains to diagrams illustrating the results of percentage-based and content-based fusing of two images to form a composite image, as well as a diagram illustrating tiling of different images within the display. (Bernier, [0036] - [0038]). The processor receives separate images from separate sources and defines image meshes for each image. (Bernier [0095]). Further, the images overlap in large areas. Thus, Bernier does not disclose or suggest using two images that are mutually exclusive, nor are the images "windows of information on the display device" since they are not displayed separately.

The examiner maintains that the prior art rejections in this regard are proper. Bernier in figure 16 shows a common window, 124 is generate from two separate image sources 122a and 122b (windows of information). Figure 18 of Bernier shows that the common window can have mutually exclusive (not overlapping) windows of information, 134 and 136 and that the common window is customizable where the added windows of information 134 and 136 are customized added features. In addition, the prior art

rejections in regards to this limitation for this office action have been elaborated to better explain these teachings.

Applicant argues the claimed "display devices positioned to provide the portion of a desired out-the window visual scene in combination with a window that provides another portion of the desired out-the-window visual scene" (claims 16, 24, and 37) is not taught in the cited section of the reference of Bernier as stated in the office action. Applicant further argues "In contrast, the cited portion of Bernier discloses integrating a view of the environment surrounding the aircraft with other types of data such as HIS, ADI, altimeters, airspeed, etc. (Bernier [0102]). The 'other' type of information in Bernier is not a window that provides another portion of the desired out-the-window visual scene".

The examiner has elaborated the rejections in the above office action to address these arguments. Specifically, Bernier teaches the claimed limitation by teaching of "Importantly, also connected to the image processor is a display 28. In this particular embodiment, the display is a helmet-mounted display located in the helmet of the pilot or other viewer" (paragraph [0052]) and by teaching of "It is understood here that a helmet-tracking device is not required for the invention" (paragraph [0052]) where the reference would achieve the claimed limitations by using a monitor instead of a head mounted display (a different embodiment) where the monitor is placed in the cockpit (the cockpit with windows is shown in figures 1a and 1b). Bernier further suggests this limitation of using a monitor by teaching of:

"Many modifications and other embodiments of the
invention will come to mind to one skilled in the art to which

this invention pertains having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the invention is not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims" (paragraph [0015])

and by teaching of:

Obstructed vision is an important safety concern in aircraft navigation, and there has been considerable effort devoted to providing systems that increase or enhance a pilot's view from the cockpit.
(paragraph [0006])

where such an action of using a monitor in the cockpit instead of a head-mounted display would constitute a modification obvious to one of ordinary skill in the art. One advantage to doing so may be to provide the operator with more freedom to operate the aircraft without wearing a helmet in which the operator may find to be uncomfortable or difficult to fit.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel F. Hajnik whose telephone number is (571) 272-7642. The examiner can normally be reached on Mon-Fri (8:30A-5:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka J. Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4/12/06

DFH

Kee M. Tung
Primary Examiner